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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,512	04/06/2000	Corneliu I. Lupu	MSFT114614	9057

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EXAMINER
VU, TUAN A

ART UNIT	PAPER NUMBER
2124	

DATE MAILED: 01/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/544,512	LUPU ET AL.	
	Examiner	Art Unit	
	Tuan A Vu	2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 April 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This action is responsive to the application filed April 6, 2000.

Claims 1-18 are have been submitted for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Preisler et al., USPN, 5,675,803 (hereinafter Preisler) in view of Kalwitz et al., USPN: 5,815,722 (hereinafter Kalwitz).

As per claim 1, Preisler discloses a method for patching a computer application program comprising determining when an error occurs during executing a debugger on the application program (e.g. col. 4, line 60 to col. 5, line 3) and applying the patch fix thereupon; but does not specify determining whether the application program is compatible or incompatible with the computer operating system prior to applying the debugger. Kalwitz, in the method of storing patches and running software modules in memory (e.g. printing devices executables or firmware) at the target machines using compatibility adjusting of software components analogous to the software error-correcting in Preisler's method, discloses pre-scanning of the operating system for communication compatibility, and initializing local devices and printing environment, prior to

downloading or executing the downloaded software executables or patch code resulting from version incompatibility (e.g. col. 13, lines 42-67; col.30, lines 44-59; Fig. 5c, 15, 16a; col. 21, 18-26). It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide the operating system checking and executing environment initializing as taught by Kalwitz to the method of debugging as taught by Preisler because first, that would provide a distributed, cross-platform capability to upgrade application software, which is a widely-used practice in today's way of disseminating application software; and second, to ensure a cost-efficient transmission of software code, and an operating system compatible execution thereof, while using a suitable environment, an appropriate protocol as well as responsive peripheral and storage devices at the host machines (Kalwitz: col. 1, line 62 to col. 2, line 28).

As per claim 2, Preisler further discloses running of the error prone target application, and setting of breaking point for stopping the debugger (Fig. 5); running (b) the application steps through the debugger (*Fix-and-continue* -- col. 10, lines 12-22); monitoring (c) the steps to determine if a breakpoint has been reached (*patch sites* -- col. 61-65); patching (d) the application whereupon (*patch site 20 → Load Instruction*, Fig. 3); and executing (b), (c) and (d) until the application finishes (steps 110, 130, 140, 160; col. 6, ll. 1-64).

As per claim 3, the Preisler does not disclose determining (a) if an identifying attribute of the application to debug matches one identifying attribute of incompatible applications, nor does he disclose determining (b) if the application is incompatible or not from, respectively, matching or not matching of said attribute. Kalwitz, in the method of storing patches and running software modules in memory (e.g. printing devices executables or firmware) at the target machines using compatibility adjusting of software components analogous to the software error-

correcting in the method of Preisler, discloses the matching with device configuration, communication, and environment information of the executable modules to download (col. 13, line 42 to col. 14, line 23); the bit-pattern of the modules (*S8004*, Fig. 8); as well as the matching of the checksum (*S2404*, Fig. 24) and version (col. 56, lines 34-48) of the firmware to download; all of which would be recognized by an ordinary skill in the art as being equivalent to determining if an attribute specific of an operating system or host environment is compatible with the associated attribute in the software component to download/upgrade prior to effecting the download and execution of the compatible software components, thereby disclosing the above limitations (a) and (b). It would have been obvious for one of ordinary skill in the art at the time the invention was made to include Kalwitz's techniques of matching platform/host environment-specific attributes to those of software components to download/upgrade such software in target machines because this would enhance the machine-specific compatibility checking, i.e. cross-platform, in upgrading target machines software application as well as increase the efficiency of resources management and also benefit of the advantages inherent to safe network distribution of data as taught by Kalwitz using the above cited techniques.

As per claim 4, only Kalwitz discloses the storing of machine architecture incompatible attributes (e.g. Table 1, col. 9-10; *configuration mask/bit pattern*, col. 27, lines 5-15); and retrieving of such attributes for matching with those of the application to upgrade (e.g. col. 27, lines 5-35; Fig. 8). Even though Kalwitz does not specify that only the incompatible patterns/attributes are stored, thus enabling matching them against the software to upgrade, one of ordinary skill in the art at the time of the invention would recognize the same effect if the other way around is implemented, i.e. storing the compatible attributes and matching them

against the target software component attributes, just as suggested by Kalwitz. Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to store an operating system specific attributes and use it for matching with one of the application to upgrade as taught by Kalwitz to the method of Preisler for the same reasons/benefits set forth in claim 3 above.

As per claim 5, Preisler further discloses loading a debugger within a RTC (run-time checking) with library module (col. 5, lines 13-19; *libraries 310*, Fig. 1) to link objects loaded for the run-time error-checking, i.e. dynamically linked module, such debugger containing (col. 6, lines 44-55) a plurality of patch sites (i.e. breakpoints as claimed), each patch site having a handler with a set of patching instructions (*patch instruction 30, patch area 50*, Fig. 3); accessing the list of patch sites from the debugger and setting the patch sites (e.g. col. 6, lines 55-64).

As per claim 6, Preisler further discloses upon reaching a patch site, calling the handler, or patch area instructions set (col. 8, lines 51-65), and patching the error-prone application based on such instructions (Fig. 3; col. 8, line 66 to col. 9, line 29).

As per claim 7, this is the computer-readable medium version of claim 1 above, hence incorporates the rejection thereof for the same obvious reasons; and further includes a computer-readable medium to embody the debugging method (col. 36, lines 62-67).

As per claim 8, this is the computer-readable medium version of claim 2 above and further includes the readable-medium of claim 7 above, hence incorporates the corresponding rejections set forth in those claims for the same reasons.

As per claims 9 and 10, these are the computer-readable medium versions of respectively claims 3 and 4 above, further includes the readable-medium of claim 7, hence incorporate the corresponding rejections set forth in those claims for the same reasons.

As per claims 11 and 12, these are the computer-readable medium versions of respectively claims 5 and 6 above, further includes the readable-medium of claim 7, hence incorporate the corresponding rejections set forth in those claims for the same reasons.

As per claim 13, this is the system version of claim 1 above, hence incorporates the rejection thereof for the same obvious reasons.

As per claims 14-18, these are the system versions of, respectively, claims 2-6, hence incorporate the corresponding rejections set forth in those claims for the same reasons.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat No. 6,141,698 to Krishnan et al., disclosing inserting of DLLs into executables.

U.S. Pub No. 2002/0073398 to Tinker, disclosing user's specifications in request for patching executables.

U.S. Pat No. 5,951,639 to MacInnis, disclosing compatibility check in downloaded software.

U.S. Pat No. 5,335,344 to Hastings, disclosing offsets and inserting instructions to preexisting object code.

U.S. Pat No. 5,450,586 to Kuzara et al., disclosing interactive code markers in debugging embedded software.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (703)305-7207. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703)305-9662.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 746-7239, (for formal communications intended for entry)

or: (703) 746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA. , 22202. 4th Floor(Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

VAT
January 6, 2003

John Chavis
Patent Examiner